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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/781,224	02/13/2001	Hidetaka Osawa	50427-729	7988

7590

06/24/2002

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EXAMINER

GORDON, BRIAN R

ART UNIT

PAPER NUMBER

1743

DATE MAILED: 06/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/781,224

Applicant(s)

OSAWA ET AL.7

Examiner

Brian R. Gordon

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 April 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 April 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 09 April 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

1. The corrected or substitute drawings were received on April 09, 2002. These drawings are approved.

### *Response to Arguments*

2. Applicant's arguments filed April 09, 2002 have been fully considered but they are not persuasive.

As to applicant's arguments as addressed (the previous 112 rejections of claims 1-6) to the use of the terms "moderately" and "instantaneous" that have now been deleted from the claims, the examiner maintains the previous position as to the terms being relative. Applicant's specification failed to provide any standards for even one of ordinary skill to determine what is meant by "moderately" or "instantaneous". The degree which one perceives each term to equal is left to the individual; therefore, the terms are relative to the individual and may not have a consistent meaning or value for even individuals which are considered to be of ordinary skill in the art.

As to applicant's argument's as addressed to the 102(e) rejection of claims 1-3, 5-8, 10-12 and the 103 rejection of claims 4 and 9, applicant has stated that the prior art of Pelc "fails to suggest that a portion of a liquid in the pipette is jet through the nozzle as a drop as recited in independent claim 1". The examiner hereby disagrees for there are numerous places within the disclosure that implies that the device has that capability. For example, the abstract states the system reservoir is coupled to one or more **microdispensers**. It is also stated that "the system of the present invention

possesses unique capabilities in microvolume liquid handling. Surprisingly, it has been discovered that sub-nanoliter **droplets** of liquid can be dispensed with real time verification."

Column 5, lines 42-53 state "A first preferred embodiment by providing a microvolume liquid handling system which includes a positive displacement pump operated by a stepper motor, a piezoresistive pressure sensor, and an electrically controlled microdispenser that utilizes a piezoelectric transducer bonded to a glass capillary. The microdispenser is capable of rapidly and accurately dispensing sub-nanoliter ("nl") sized **droplets** by forcibly ejecting the **droplets** from a small nozzle, this is known as 'drop -on-demand'. Specifically, the dispenser of the present invention disperses **drops** in the range from about 5 picoliters to about 500 picoliters, preferably from about 100 picoliters to about 500 picoliters."

The ability of the system to perform as such is present throughout the specification of Pelc; therefore, the examiner hereby maintains the art rejections previously recited in Paper No. 8.

### ***Specification***

3. The amendment filed April 9, 2002 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: The examiner fails to find support within the specification for the term "high speed signal" and "jetting means".

Applicant is required to cancel the new matter in the reply to this Office Action.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-13 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The examiner fails to find support within the specification for the term "high speed signal" as disclosed in applicant's amended claims.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. The terms "high speed signal" and "jetting means " in claims "(1, 6) and 13 respectively are a relative terms which renders the claim indefinite. The term "high speed signal" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The examiner fails to find support within the specification for the term "high speed signal" and "jetting means".

It also unclear what applicant considers to be the difference between claims 1 and 13, the "position changing means" of claim 1 and the "jetting means" of claim 13 comprise the same elements and are structurally the same element. The claims are essentially duplicate and therefore one of the claims must be canceled.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

10. Claims 1-3, 5-8, and 10-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Pelc et al., US 6,203,759.

Pelc discloses a micro volume liquid handling system, that comprises; syringe 30 with a nozzle that is mounted or held in place (see Fig 2), motor 28 that moves plunger 34 up or down by a specified number of discrete steps inside the tube, the plunger is mechanically coupled to the motor via a series of gears and a belt. The device also comprises control logic for directing and measuring the amount of liquid dispensed or aspirated. The pressure sensor allows for the detection of the liquid dispensed or aspirated. The device may also comprise a piezoelectric transducer to dispense droplets 26. The device operates by drawing a liquid into the syringe and then the

stepper motor is directed to move the plunger in steps allowing for droplets to be dispensed.

***Claim Rejections - 35 USC § 103***

11. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

12. Claims 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pelc et al. in view of Kelly et al. US 6,168,761.

Pelc et al. does not disclose that the pipette comprises an attachable nozzle cap with a diameter smaller than the diameter of the nozzle.

Kelly et al. discloses a pipette tip that may be mounted on the end of a pipette shaft. The tip is tapered so that the diameter of the tip opening is smaller than that of the pipette nozzle opening.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device of Pelc et al. to include the disposable mounting tip of Kelly et al. in order to avoid carry over or contamination when dispensing and aspirating different fluids.

***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tisone et al. and Sollbohrer et al. disclose dispensing devices.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian R. Gordon whose telephone number is (703) 305-0399. The examiner can normally be reached on M-F, with 2nd and 4th F off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 703-308-4037. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7719 for regular communications and (703) 305-3014 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.




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brg

June 20, 2002

  
Jill Warden  
Supervisory Patent Examiner  
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